QP
356
.15
J68

THE JOURNAL

OF

COMPARATIVE NEUROLOGY

FOUNDED BY C. L. HERRICK, 1891

EDITORIAL BOARD

W. MAXWELL COWAN, Managing Editor
Washington University School of Medicine
Saint Louis, Missouri

JAY B. ANGEVINE, JR.
University of Arizona

THEODOR W. BLACKSTAD
University of Aarhus
Denmark

DAVID BODIAN
Johns Hopkins University

MILTON W. BRIGHTMAN
National Institutes of Health

RICHARD P. BUNGE
Washington University

MALCOLM B. CARPENTER
Columbia University

CLEMENT A. FOX
Wayne State University

R. W. GUILLERY
University of Wisconsin

KARL M. KNIGGE
University of Rochester

WALLE J. H. NAUTA
Massachusetts Institute
of Technology

SANFORD PALAY
Harvard Medical School

JERZY E. ROSE
University of Wisconsin

RICHARD L. SIDMAN
Harvard Medical School

J. SZENTAGOTHAI
Semmelweis University
Hungary

DAVID G. WHITLOCK
University of Colorado

VOLUME 148

MARCH — APRIL 1973

PUBLISHED BY

THE WISTAR INSTITUTE OF ANATOMY AND BIOLOGY

PHILADELPHIA, PA.

COPYRIGHT © 1973 BY
THE WISTAR INSTITUTE PRESS

All rights reserved

Contents

No. 1 MARCH 1, 1973

WILLIAM K. STELL AND PAUL WITKOVSKY. Retinal Structure in the Smooth Dogfish, *Mustelus canis*: General Description and Light Microscopy of Giant Ganglion Cells 1

WILLIAM K. STELL AND PAUL WITKOVSKY. Retinal Structure in the Smooth Dogfish, *Mustelus canis*: Light Microscopy of Photoreceptor and Horizontal Cells 33

PAUL WITKOVSKY AND WILLIAM K. STELL. Retinal Structure in the Smooth Dogfish, *Mustelus canis*: Light Microscopy of Bipolar Cells 47

HARVEY J. KARTEN AND JACOB L. DUBBELDAM. The Organization and Projections of the Paleostriatal Complex in the Pigeon (Columba livia) 61

B. B. BOYCOTT AND H. KOLB. The Connections between Bipolar Cells and Photoreceptors in the Retina of the Domestic Cat 91

B. B. BOYCOTT AND H. KOLB. The Horizontal Cells of the Rhesus Monkey Retina 115

No. 2 MARCH 15, 1973

V. S. CAVINESS, JR. AND R. L. SIDMAN. Time of Origin of Corresponding Cell Classes in the Cerebral Cortex of Normal and Reeler Mutant Mice: An Autoradiographic Analysis .. 141

A. PARENT. Distribution of Monoamine-containing Nerve Terminals in the Brain of the Painted Turtle, *Chrysemys picta* 153

S. M. ZEKI. Comparison of the Cortical Degeneration in the Visual Regions of the Temporal Lobe of the Monkey following Section of the Anterior Commissure and the Splenium 167

JAMES E. VAUGHN AND JUDITH A. GRIESHABER. A Morphological Investigation of an Early Reflex Pathway in Developing Rat Spinal Cord 177

R. Kraus-Ruppert, J. Laissue, H. Bürki and N. Odartchenko. Proliferation and Turnover of Glial Cells in the Forebrain of Young Adult Mice as Studied by Repeated Injections of ^{3}H-Thymidine over a Prolonged Period of Time 211

T. M. Mayhew and C. K. Momoh. Contribution to the Quantitative Analysis of Neuronal Parameters: The Effects of Biased Sampling Procedures on Estimates of Neuronal Volume, Surface Area and Packing Density 217

Roy H. Steinberg, Miriam Reid and Paula L. Lacy. The Distribution of Rods and Cones in the Retina of the Cat (*Felis domesticus*) 229

Hanna M. Sobkowicz, Henrik A. Hartmann, Rachel Monzain and Patricia Desnoyers. Growth, Differentiation and Ribonucleic Acid Content of the Fetal Rat Spinal Ganglion Cells in Culture 249

No. 3 APRIL 1, 1973

Murray A. Matthews and Lawrence Kruger. Electron Microscopy of Non-neuronal Cellular Changes Accompanying Neural Degeneration in Thalamic Nuclei of the Rabbit. I. Reactive Hematogenous and Perivascular Elements within the Basal Lamina 285

Murray A. Matthews and Lawrence Kruger. Electron Microscopy of Non-neuronal Cellular Changes Accompanying Neural Degeneration in Thalamic Nuclei of the Rabbit. II. Reactive Elements within the Neuropil 313

Allan I. Basbaum and Peter J. Hand. Projections of Cervicothoracic Dorsal Roots to the Cuneate Nucleus of the Rat, with Observations on Cellular "Bricks" 347

J. K. Harting, W. C. Hall, I. T. Diamond and G. F. Martin. Anterograde Degeneration Study of the Superior Colliculus in *Tupaia glis*: Evidence for a Subdivision between Superficial and Deep Layers 361

Randolph E. Perkins. An Electron Microscopic Study of Synaptic Organization in the Medial Superior Olive of Normal and Experimental Chinchillas 387

No. 4 APRIL 15, 1973

R. W. Guillery. The Effect of Lid Suture upon the Growth of Cells in the Dorsal Lateral Geniculate Nucleus of Kittens 417

Ronald L. Smith. The Ascending Fiber Projections from the Principal Sensory Trigeminal Nucleus in the Rat 423

William Hodos, Harvey J. Karten and James C. Bonbright, Jr. Visual Intensity and Pattern Discrimination after Lesions of the Thalamofugal Visual Pathway in Pigeons ... 447

Hans Jordan. The Structure of the Medial Geniculate Nucleus (MGN): A Cyto- and Myeloarchitectonic Study in the Squirrel Monkey 469

J. Tigges, W. B. Spatz and Margarete Tigges. Reciprocal Point-to-Point Connections between Parastriate and Striate Cortex in the Squirrel Monkey (*Saimiri*) 481

Michael H. Bowman and James S. King. The Conformation, Cytology and Synaptology of the Opossum Inferior Olivary Nucleus 491

Index to Volume 148 525